

Define & Plan a Cost Estimate

Step 1 of the Estimate Process

Module 3

**ESC Cost Core Training
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Version 2 (Draft)
March 2000 (by ESC/FMC)**

**Revised
June 1993 (by Tecolote Research, Inc.)
August 1997 (by Tecolote Research, Inc.)**

**Apr 91
Version 1 (by ESC/FMC)**

Define & Plan a Cost Estimate

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7 Steps of the Cost Estimating Process

1. Define and Plan

2. Specify Estimating Methodology
3. Calculate -- Including What-ifs & Alternatives
4. Time Phase in Base Year Dollars
5. Inflate to Then Year Dollars
6. Wrap Up Documentation
7. Complete Final Reviews

Define & Plan a Cost Estimate

- 1 . Set-up Initial Planning/Information Meeting With the Program Manager
- 2 . Review Hard-Copy Information
- 3 . Establish and Lead a Team of Functional Specialists
- 4 . Obtain Preliminary Program Definition
- 5 . Develop the WBS

Task 1: Initial Meeting

- Meet with:
 - Program Manager (PM)
 - Deputy PM (if available)
 - FM Chief
 - Estimate Focal Point
- Have agenda established

DOES ANYBODY HAVE
ANY QUESTIONS ABOUT
OUR PLAN? ASK ME
ANYTHING—THERE ARE
NO "STUPID" QUESTIONS.



S. Adams

IF YOU CROSSED THE
INTERNATIONAL
DATE LINE ON YOUR
BIRTHDAY, WOULD
YOU STILL GET
PRESENTS?



9-14

Initial Meeting Agenda Guidelines

- 1) Purpose, Scope and Time Constraints
- 2) Current Program Status
- 3) Hard Copy Information
- 4) Access to Top Functional Specialists
- 5) How PM “manages” the Program
- 6) Most Likely What-ifs

1) Purpose, Scope and Time Constraints

Why is this cost estimate needed?

What decisions are pending on the results?

Will the estimate be briefed? To whom?

Will the results be used in some document?

What does the recipient want included/excluded?

1) Purpose, Scope and Time Constraints (Continued)

If a Joint Program, what are the program and funding responsibilities for each Service?

What are the time constraints for this estimate?

What excursions are needed?

2) Current Program Status

- What Acquisition Phase?
- How mature is the Program Definition?
- Does technology exist today to design, develop, test and manufacture the system?

2) Current Program Status (Continued)

- Any inter-relationship with other systems?
- Any contracts to date? What types?
- How have the contractors performed to date?
- Key Issues

3) Hard Copy Information

- Program Direction
- Program Documentation
- Technical Description
- Program Schedule
- Total & FY Quantity Information
- Acquisition Plan
- Latest Program Cost Estimate
- Statement of Work (SOW) or Statement of Objectives (SOO)
- Test Plan

4) Functional Specialists Needed on the Team

- Hardware Engineers
- Software Engineers
- Test Engineers
- Manufacturing Engineers
- Logistics Specialists
- Configuration Management Specialist
- Training Specialist
- Contracts Specialist
- Budget Specialist
- Schedule Specialist
- CPR/CSSR Analyst

5) How Does the PM “Manage” The Program?

- » Know the type of information the PM and FM Chief like to have available.
- » Structure your estimate so that it maps into the thinking process that best helps them.

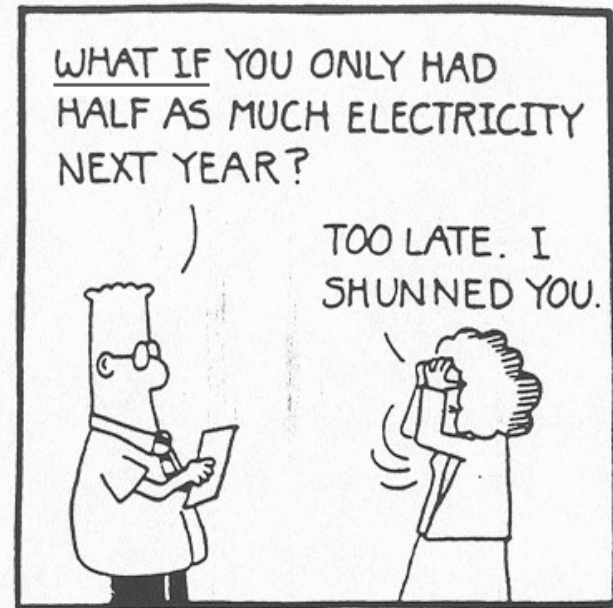
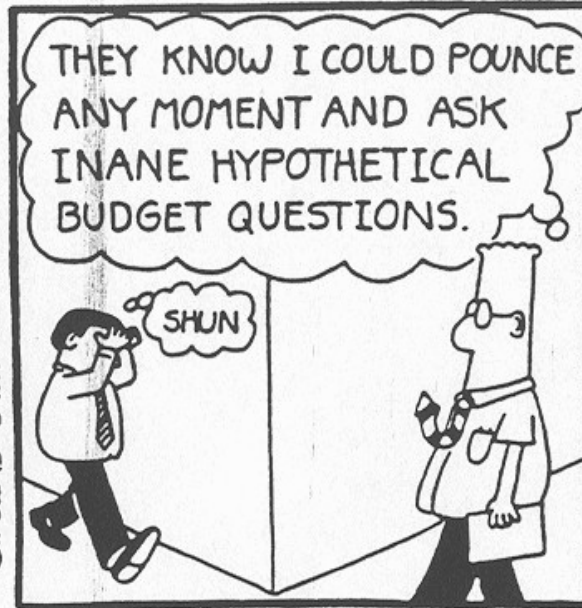
6) Most Likely What-Ifs

- Aside from the excursions, what are the future “what-ifs” or unknowns that the Program Office will have to respond to?
- What future questions does the PM anticipate once this estimate is behind them?

Automate your estimate so you can quickly respond to the most likely what-ifs.



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Define & Plan a Cost Estimate

- 1 . Set-up Initial Planning/Information Meeting With the Program Manager
- 2 . Review Hard-Copy Information
- 3 . Establish and Lead a Team of Functional Specialists
- 4 . Obtain Preliminary Program Definition
- 5 . Develop the WBS

Task 2: Review Hard-Copy Information

- Become familiar with the Program's technical description and schedule.
- The PMD will specify the role and responsibilities of ESC in the Program.
- The PMD may indicate significant thresholds or mandatory requirements for the Program.

Task 3: Establish & Lead a Team of Functional Specialists

If . . .

- you gather the best people
- are prepared before you meet with them
- know what to ask and
- know how to ask it

. . . the information you need can be obtained in a matter of hours.

Task 4: Obtain Preliminary Program Definition

- 1) System's Purpose
- 2) Identification of Hardware & Software
- 3) Technology Required
- 4) Degree of Subcontracting
- 5) Competitive Contract Team Differences
- 6) Joint Service Funding Responsibilities
- 7) In-Service Funding Responsibilities
- 8) Progress on Contract Tasks
- 9) Contractor's Performance to Date
- 10) Major ECOs Anticipated
- 11) Interrelationship With Other Programs
- 12) Support Concepts
- 13) Development, Test & Prod - Quantities & Schedule
- 14) Acquisition Strategy
- 15) Ground Rules & Assumptions
- 16) Excursions Anticipated

Task 4: Obtain Preliminary Program Definition (Continued)

- 1) System's Purpose
- 2) Identification of Hardware & Software
- 3) Technology Required

Task 4: Obtain Preliminary Program Definition (Continued)

- 4) Degree of Subcontracting
- 5) Competitive Contract Team
Differences

Task 4: Obtain Preliminary Program Definition (Continued)

- 6) Joint Service Funding Responsibilities
- 7) In-Service (Air Force) Funding Responsibilities
- 8) Progress on Contract Tasks
- 9) Contractor's Performance to Date
- 10) Major ECOs Anticipated

Task 4: Obtain Preliminary Program Definition (Continued)

- 11) Interrelationship With Other Programs
- 12) Support Concepts
- 13) Development, Test & Production - Quantities & Schedule

Task 4: Obtain Preliminary Program Definition (Continued)

14) Acquisition Strategy

15) Ground Rules &
Assumptions

16) Excursions Anticipated

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Task 5: Develop the WBS

- Establish an initial WBS
- Update it throughout the estimating process as the program definition and technical baseline become more defined.
- Structure it to provide relevant cost information to facilitate program financial management.

Questions Concerning the WBS

- What?
- Why?
- Who?
- When?
- What do you need before starting?
- What is a Contract WBS?
- What is a Program WBS?

What?

- Level 1 of the Program WBS is the entire defense system.
- Level 2 should separately identify each Contract (consistent with planned/actual Acquisition Strategy), plus all other efforts involved in the Program.
- Each Level 2 (Contract) WBS element should be expanded to the next lower-level major components.

Why?

- The WBS facilitates communication between members of the team by providing a set of standard terms and definitions to:
 - the contract person who thinks in terms of contract line items
 - the engineer who thinks in terms of engineering specifications
 - the budget analyst who thinks in terms of appropriations
- etc.

Who?

You, the cost estimator, working with the multi-disciplined team of functional experts, should develop the Program WBS.

When?

- * The initial WBS is developed in Step 1: Define & Plan.
- * It is developed before you obtain detailed inputs from the experts and before you specify your estimating methodology.
- * The WBS is then updated as the program definition and contract structure are refined and details are added.

What Do You Need to Understand Before Starting?

- Preliminary Program Definition
- Engineering Specifications
- Structure of the Contract
- Program and Funding Responsibilities
- MIL-HDBK-881

What is a Contract WBS?

- The Program Office derives a CWBS by tailoring the WBS to correspond to a specific contract effort.
- A CWBS is prepared for each RFP/contract that the Program Office will manage.
- The CWBS is negotiated with the winning contractor and becomes the contractor's WBS for its effort on that contract or program.

What is the Program WBS?

- The PWBS is the product-oriented breakdown of the entire weapon system program effort.
- It includes each contract and its CWBS, plus all contract efforts, Government Test Support Agencies, Mitre, TEMS, GFE, and Program Office travel.
- If the PWBS reflects the program and its structure, the Program Director will use it to manage the program.

Sample Program WBS

- Program
 - Contract #1
 - Prime Mission Product
 - Radar
 - Subsystem Engineering
 -
 - Integration
 - SE/PM
 - System Test & Evaluation
 - Training
 -
 - Data
 - Contract Options (not yet on contract)
 - ECOs
 - Contract #2
 -
 - Mitre
 - Government Test Support
 - Program Office Travel